

Patented June 24, 1908

BE IT KNOWN that I, *Artur FISCHER*, have invented certain  
new and useful improvements in

***ADHESIVE BOND OF A TOY BUILDING BLOCK,  
AND A METHOD FOR PRODUCING THE SAME***

of which the following is a complete specification:

## BACKGROUND OF THE INVENTION

The present invention relates to an adhesive bond of a toy building block.

It also relates to a method of producing the adhesive bond of a toy building block.

Toy building blocks made from a solid foam that becomes adhesive by moistening are known, for example, from DE 197 03 038. The known toy building blocks are manufactured from an extruded and foamed (expanded) starch material, that is to say from starch or a starch-containing material. A manufacturing process for such toy building blocks is disclosed in DE 40 16 597 A1. Other manufacturing processes and other starting materials are of course also possible. Whilst the known toy building blocks become adhesive by moistening and as a result can be attached adhesively to one another or to another element, for example to a base of a different material, the strength of the adhesive bond is low, especially in the case of adhesion to another element made from a non-adhesive material.

### SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to provide an adhesive bond of a toy building block, as well as a method of producing the adhesive bond, which avoid the disadvantages of the prior art.

More particularly, it is an object of the present invention to provide an adhesive bond of a toy building block and a method of producing the adhesive bond, which can provide a higher strength than with conventional solutions.

In keeping with these objects and with others which will become apparent hereinafter, one feature of present invention resides, briefly stated, in an adhesive bond to another element of a toy building block that consists of a solid foam that becomes adhesive by moistening wherein for the adhesion, starch in liquid form is applied to the toy building block and/or to the other element.

In accordance with another feature of present invention a method of producing an adhesive bond to another element of a toy building block that consists of a solid foam that becomes adhesive by moistening is

proposed, in accordance with which starch in liquid form is applied to the toy building block and/or to the other element, and the toy building block and the other element are joined together.

When the adhesive bond is formed and the method is performed in accordance with the present invention, the adhesive bond has a higher strength than in the prior art solutions.

The novel features which are considered as characteristic for the present invention are set forth in particular in the appended claims. The invention itself, however, both as to its construction and its method of operation, together with additional objects and advantages thereof, will be best understood from the following description of specific embodiments.

### DESCRIPTION OF THE PREFERRED EMBODIMENTS

In order to produce the adhesive bond according to the invention, starch is applied in liquid form to the toy building block and/or to the other element, and the toy building block and the other element are joined together, for example pressed against one another. The toy building block is moistened by the moisture of the liquid starch and becomes adhesive as a result. In addition, the starch applied in liquid form acts adhesively and in that manner increases the strength of the adhesive bond. There is especially used starch dissolved in water. For the adhesive bond there can be used, for example, a mixture of commercially available liquid starch in an amount of from 30 to 50% and water in an amount of from 50 to 70%. Starch in liquid form also includes viscous or pastry starch.

The other element to which the toy building block that becomes adhesive by moistening is adhesively attached may be a further similar toy building block. In an embodiment of the invention, the other element is made of a different, especially non-adhesive, material for such bonds, the adhesive bond according to the invention, owing to its increased strength, has the advantage of having strength customarily sufficient for the construction of toy models. The other material to which the toy building block is adhesively

attached can be especially a base of paper, card or the like, on which, for example, a model is constructed using the known toy building blocks. The other element, which consists, for example, of paper or card, can also constitute a reinforcing element for the toy model.

In a preferred embodiment of the invention, the adhesive bond is used to coat, for example, model landscapes or the like with a pourable material consisting of the solid foam that becomes adhesive by moistening and that is or has been triturated before adhesion to form a pourable material, especially flocks. The starch in liquid form is applied to a base, onto which there is then scattered the solid foam that has been triturated to flocks or pourable material.

The base consists, for example, of paper, card or papier mâché and forms the model landscapes. The solid foam that has been triturated to form flocks or pourable material sticks to the base, resulting in a type commercially available liquid starch in an amount of from 30 to 50% and water in an amount of from 50 to 70%. Starch in liquid also includes viscous or pasty starch.

The other element to which the toy building block that becomes adhesive by moistening is adhesively attached may be a further similar toy building block. In an embodiment of the invention, the other element is made of a different, especially non-adhesive, material. For such bonds, the adhesive bond according to the invention, owing to its increased strength, has the advantage of having strength customarily sufficient for the construction of toy models. The other material to which the toy building block is adhesively attached can be especially a base of paper, card or the like, on which, for example a model is constructed using the known toy building blocks. The other element, which consists, for example, of paper or card, can also constitute a reinforcing element for the toy model.

In a preferred embodiment of the invention, the adhesive bond is used to coat, for example, model landscapes or the like with a pourable material consisting of the solid foam that becomes adhesive by moistening and that is or has been triturated before adhesion to form a pourable material, especially flocks. The starch in liquid form is applied to a base, onto which there is then scattered the solid foam that has been triturated to flocks or pourable material.

The base consists, for example, of paper, card or papier mâché and forms the model landscape. The solid foam that has been triturated to form flocks or pourable material sticks to the base, resulting in a type of flocking. In that manner it is possible to produce realistic model grass surfaces or model landscapes surfaces, snow-covered surfaces can be created or it is possible to produce model trees by providing branches frames with flocking. The frames can also be made from the solid foam, for example from toy building blocks stuck together or from parts cut out of the toy building blocks.

The starch in liquid form can be applied, for example, using a paintbrush or a rag. In a preferred embodiment of the invention, the starch in liquid form is applied by spraying.

It will be understood that each of the elements described above, or two or more together, may also find a useful application in other types of methods and constructions differing from the types described above.

While the invention has been illustrated and described as embodied in adhesive bond of a toy building block, and a method of producing the SAME, it is not intended to be limited to the details shown,



since various modifications and structural changes may be made without departing in any way from the spirit of the present invention.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can, by applying current knowledge, readily adapt it for various applications without omitting features that, from the standpoint of prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention.

What is claimed as new and desired to be protected by Letters Patent is set forth in the appended claims.